

TABLE 64

Statistical profile of doctorate recipients in engineering fields, by sex and field of study: 2018

(Number, percent, and median years)

Characteristic	All engineering fields	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronics, and communications engineering	Industrial and manufacturing engineering	Materials science engineering	Mechanical engineering	Other engineering
From bachelor's	7.3	6.9	6.9	6.0	8.3	7.8	8.6	6.6	7.3	7.9
From graduate school start	6.7	6.4	6.3	5.6	7.3	7.0	7.8	6.0	6.8	7.0
From doctoral program start ^c	5.3	5.3	5.3	5.0	4.8	5.3	5.0	5.0	5.3	5.2
Male doctorate recipients (number)	7,726	337	688	688	507	1,606	204	720	1,286	1,690
Citizenship (%)										
U.S. citizen or permanent resident	40.0	57.3	63.4	49.3	28.2	27.8	20.6	46.8	39.7	38.0
Temporary visa holder	56.3	38.9	33.7	47.7	66.9	67.7	74.5	50.4	56.2	58.8
Unknown	3.7	3.9	2.9	3.1	4.9	4.5	4.9	2.8	4.1	3.2
Marital status (%)										
Never married	41.5	42.7	46.9	49.6	37.3	42.3	32.4	46.1	40.7	36.2
Married	41.1	37.1	35.0	31.4	46.2	41.5	53.4	33.6	41.9	47.3
Marriage-like relationship	5.7	D	8.7	7.1	3.6	4.5	D	8.5	5.2	4.9
Separated, divorced, widowed	1.2	D	1.6	D	D	1.1	D	0.8	1.3	1.1
Unknown	10.5	D	7.7	D	D	10.6	11.3	11.0	10.8	10.5
Bachelor's in same field as doctorate (%) ^b	79.3	83.4	75.0	84.2	83.2	84.7	73.5	65.6	87.1	72.5
Master's earned (%)	72.3	79.5	55.8	45.5	86.2	79.0	81.9	59.3	77.9	78.0
Age at doctorate (median years)	30.1	29.3	29.7	28.7	31.6	30.5	32.1	29.2	30.1	30.7

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Time to doctorate (median years)										
From bachelor's	7.4	6.8	7.0	6.0	8.3	7.8	8.9	6.6	7.5	7.9
From graduate school start	6.8	6.3	6.3	5.6	7.4	7.0	7.8	6.0	6.8	7.0
From doctoral program start ^C	5.3	5.3	5.3	5.0	4.8	5.3	5.0	5.0	5.3	5.2
Female doctorate recipients (number)	2,453	46	445	293	170	345	68	275	216	595
Citizenship (%)										
U.S. citizen or permanent resident	46.0	60.9	69.2	44.4	33.5	28.4	29.4	45.8	45.4	44.4
Temporary visa holder	50.3	32.6	29.2	51.2	61.2	67.0	64.7	50.5	50.0	52.6
Unknown	3.7	6.5	1.6	4.4	5.3	4.6	5.9	3.6	4.6	3.0
Marital status (%)										
Never married	38.4	34.8	44.9	38.9	35.9	34.5	35.3	42.9	33.3	36.8
Married	40.1	37.0	36.9	37.9	35.3	46.4	44.1	36.0	36.6	44.2
Marriage-like relationship	7.9	D	11.0	10.6	6.5	4.3	D	8.0	11.1	6.2
Separated, divorced, widowed	2.4	D	1.1	D	D	2.0	D	3.3	2.8	3.5
Unknown	11.1	17.4	6.1	D	D	12.8	D	9.8	16.2	9.2

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Characteristic	All engineering fields	Aerospace, aeronautical, and astronautical engineering	Bioengineering and biomedical engineering	Chemical engineering	Civil engineering	Electrical, electronics, and communications engineering	Industrial and manufacturing engineering	Materials science engineering	Mechanical engineering	Other engineering
Bachelor's in same field as doctorate (%) ^b	73.5	78.3	74.8	82.6	72.4	81.7	66.2	62.9	78.7	67.1
Master's earned (%)	68.0	80.4	50.1	47.1	75.9	76.8	85.3	62.2	75.0	81.7
Age at doctorate (median years)	29.5	29.3	29.0	28.7	30.8	29.8	30.7	28.8	29.5	30.1
Time to doctorate (median years)										
From bachelor's	7.0	7.0	6.6	6.0	7.9	7.7	8.1	6.3	6.9	7.8
From graduate school start	6.3	6.8	5.9	5.6	7.3	7.0	7.1	5.9	6.3	7.0
From doctoral program start ^c	5.2	5.1	5.3	5.0	4.8	5.3	5.0	5.0	5.0	5.2

* = value between 0.00% and 0.05%; D = suppressed to avoid disclosure of confidential information.

^a Includes respondents who did not report sex.^b A bachelor's degree is counted as "in same field as doctorate" if the fields of study of the doctorate recipient's first or most recent bachelor's degree and doctoral degree are both in the same major field category, except for engineering and education fields where broad field categories need to be the same. See table A-6 in the technical notes for a listing of major fields and their constituent subfields based on the National Center for Science and Engineering Statistics' field of study taxonomy.^c Time to doctorate from doctoral program start is based on master's degree entry if the master's degree was at the doctoral institution in the same fine field of study or was a prerequisite to the doctorate; otherwise, it is based on doctoral program entry.**Note(s)**

Due to rounding, percentages may not sum to 100.

Source(s)

National Center for Science and Engineering Statistics, Survey of Earned Doctorates.